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CASES ILLUSTRATING THE USE OF THE PNEUMATIC
ASPIRATOR IN SURGERY.

By CHARLES D. HOMANS, M.D., Boston.

THE advantage of the use of the aspirator, in enabling surgeons to make a diagnosis in cases where the existence of fluid is doubtful, seems to be pretty generally recognized, but practitioners do not appear to realize that this instrument is of great value in surgery in the treatment of many other affections. It has been used for the removal of pus and synovia from joints, for the emptying of chronic abscesses, in cases of chronic hydrocephalus, of retention of urine, of strangulated hernia, and to relieve the pain of distention in cases of great flatulence. In all these cases, some, of necessity, mortal, the relief to pain is very great, while, as a rule, the punctures made by the aspirator needles have been followed by no serious consequences; in fact, in most cases at post-mortem examinations, but little if any trace of their passage could be found.

This instrument was used many times during the past season in my service at the City Hospital, and the following are some of the most striking of the cases:—

CASE I.—*Strangulated Hernia.* April 20th. P. B., laborer, aged 54 years, has had oblique inguinal hernia on the right side for the past ten years; he has always worn a truss till within a week before entrance; three days ago, after exertion, the hernia came down, and has remained down since, notwithstanding efforts at reduction were made by himself and two physicians. Constitutional disturbance not great. The hernial mass was about the size of a hen's egg, and very tender. The patient was etherized, and taxis tried for half an hour without success; a fine aspirator needle was then thrust into the tumor, and from three to four drachms of fluid, containing bubbles of air, drawn out. Taxis was then again resorted to, and the hernia immediately returned. No unfavorable symptoms supervened, and the patient was discharged, well, the eighth day after the operation.

CASE II.—*Strangulated Hernia.* May 26th. B. R., seaman, aged 27 years, entered the hospital with a large inguinal hernia on the right side, which had been down for several hours, and which he had

vainly tried to reduce himself. He had been ruptured more than seven years, and had usually worn a truss of his own manufacture. Four years ago, he was operated on by a distinguished surgeon of London, by Wood's method, for the radical cure of the hernia, but the operation, at first apparently successful, was followed by a recurrence of the rupture after seven or eight months. Since then, it has frequently come down, but he has always been able to return it without the aid of a physician. Now there is a large hernial tumor in the right groin, very painful and tender. It is quite firm to the touch, and the skin over it shows the scars of the operation in London. There was some acceleration of the pulse, and the countenance was anxious. The patient was etherized, and attempts were made to reduce the hernia by the taxis, by position, and in every way that could be suggested, but without success. The tumor was punctured with the fine needle of the aspirator three successive times, but no fluid or gas passed out. The ordinary operation for strangulated hernia was then resorted to, and the tumor found to consist wholly of intestine, very tightly compressed, which may, perhaps, explain why no fluid or air came after the punctures. The patient did perfectly well, and was discharged three weeks after the operation.

CASE III.—*Retention of Urine from Stricture.* A man, aged 37 years, entered the hospital with his bladder distended with urine, none having been passed for thirty hours. Many attempts had been made to pass an instrument through the urethra, but without success. There was a stricture four inches from the meatus, and blood followed the attempt to pass the catheter. The fine needle of the pneumatic aspirator was passed into the bladder behind the pubes and three pints of urine were drawn off. The bladder was punctured again the next day, after which the urine came naturally.

CASE IV.—A man, aged 28 years, was brought to the hospital, having fallen astride a plank ten hours before, and having been unable to empty his bladder since. He was suffering greatly from distention, and the aspirator was immediately used, as in Case III, forty ounces of urine, slightly tinged with blood, being drawn off. It was afterwards necessary to perform perineal section, and the man eventually recovered.

Dr. Wm. Ingalls also used the aspirator in a case of retention of urine from stricture with similar good results, and it was used many times for emptying abscesses, exploring tumors, &c. Its use in one of the cases of strangulated hernia was, apparently, of the greatest service, while in the other case no harm was done, though three punctures were made. In the cases of retention of urine, the advantage of this manner of relieving suffering is certainly very striking over the old way of tapping through the rectum. The needle is more easily introduced if a very slight puncture is first made through the skin.

LOCAL ANÆSTHESIA OF THE LARYNX.

By F. A. HARRIS, M.D. Harv.

THOUGH one sometimes meets with patients who, at the first examination, bear not only the introduction of the laryngeal mirror perfectly well, but, also, the introduction of the sound, or the porte caustique, still, in the great majority of cases, this latter point is only reached after a tedious course of drillings, lasting from a few days to several weeks; and even more time may be consumed without the sensibility of the larynx being sufficiently diminished to allow of an operation.

The time and patience of both practitioner and patient are thus severely taxed, and, general anaesthesia being out of the question, since a certain amount of assistance must be rendered by the patient, a safe and reliable means of producing a local insensibility of the larynx is very much to be desired.

Prof. Türck, of Vienna, claims to have been the first to attempt to overcome the obstacles which lie in the way of a speedy operation.

He made use of a solution consisting of—

R. Morphiæ acetatis, gr. iij.;
Alcohol, 3 j.;
Chloroformi, 3 ss. M.

This he applied with the ordinary laryngeal brush, or by means of his so-called "sponge syringe," which was simply a sponge fastened to the nozzle of a small syringe, the nozzle being of suitable length and curvature to be introduced into the larynx. With this solution he was tolerably successful, failing of anaesthesia only twice.

Then he tried a solution of acetate of morphia in distilled water. The strength varied from 3 to 12 grains to the drachm, and to the more concentrated solutions a little acetic acid was added. The application was made with the laryngeal pencil, but the weaker solutions produced no anaesthesia, and the stronger only an insufficient degree.

Then a solution of twenty grains to the drachm was tried in three cases, and one of forty grains in one case, and only a slight degree of anaesthesia was produced in any case after a single application; but the application, repeated four times, produced intense anaesthesia of the larynx.

In three other cases, three applications of a solution of one part to three produced complete insensibility.

In all these cases, the interval between the individual pencillings was from five to fifteen minutes. In cases where the interval was longer, the anaesthesia was slight.

Two applications of the latter solution, in four other cases, produced full local insensibility, while in a fifth case it was insufficient.

The degree of anaesthesia in the cases mentioned varied. Only seldom was it impossible to introduce the sound, and in many cases,

touching in any part of the larynx produced neither coughing nor contraction of the larynx; in short, no reflex action whatever. Türck noticed that the degree of insensibility increased gradually from the first, so that while, at first, it was hardly possible to begin an operation, at last, the loss of sensitiveness allowed operations of considerable length to be performed. The most intense anaesthesia was attained two or two and a half hours from the last pencilling, and the duration was from a few hours to a day and a half, and once even as long as seventy-two hours.

The effects produced in the larynx by the use of the morphine and water solution were cough, slight pain (probably caused by the acetic acid) partial hyperæmia and swelling and slight ecchymoses on the vocal cords and inferior section of the larynx.

He states the number of pencilings to have varied from two to six, though in some of his reported cases he goes as high as thirteen. The quantity of fluid used at a single pencilling was about ten minims, so that four pencilings would require ten grains of morphia; so, allowing for a little waste in introduction, there would be two grains introduced at each pencilling.

Later, although he had pretty much attained his object, as far as producing an insensibility of the larynx, he made farther experiments, to see if he could avoid the general narcotism which followed his operations and to avoid so much local irritation of the parts.

He pencilled twice with clear chloroform, and then followed, a few minutes later, with a weak solution of morphine, 1:20. In the first two cases, where the interval between the chloroform and morphia was only eight minutes, the anaesthesia was slight. In one, where the interval was two hours, one pencilling with morphine produced no local effect, while in the last case an interval of two hours, followed by two pencilings within five minutes, gave an intense anaesthesia. The action of the chloroform seems to be, since it alone will not produce anaesthesia, to destroy the epithelium and to promote the absorption of the morphine, as if given endermically.

Now, considering the large amount of morphine used, the results in regard to general narcotism are interesting.

In all the cases but two, there were general symptoms, and they generally made their appearance early, the local effects being manifested later.

There was always dizziness, staggering, feeling of intoxication, some headache and muscular weakness, and, later, in many cases, nausea and vomiting. Severe symptoms followed the use of the 1:3 solution four times. The dizziness and staggering compelled the patients to lie down; tremblings, formication in the extremities, drowsiness, contracted pupils, with more or less diminished sensibility of the iris. In one case, blackness of vision, roaring in the ears. In three cases, also, retention of urine, pulse reduced in strength and frequency, sometimes profuse perspiration.

Consciousness, however, was not impaired, nor was there sopor in any case.

The general symptoms appeared from fifteen minutes to two hours after the last pencilling, the severer symptoms, however, not coming on till later.

The general narcotism lasted from six hours to two days.

The relative duration of the narcotism and the local insensibility showed that the former made its appearance first, and the local effect lasted generally from seven to forty-eight hours after the severer general symptoms.

Dr. Schrötter has made use of the latter method, slightly modified, quite extensively, and in the *Jahresbericht* for 1870 reported several cases of interest:

CASE I.—Mrs. G., æt. 27; tumor below the vocal cords, which Dr. S. had been unable to remove by pencilling with the iodine-glycerine solution, and, since the patient was too sensitive to allow an operation, he determined on local anaesthesia, produced in the following manner:—

May 5th, at 7 o'clock, P.M., pencilled twelve times with clear chloroform; at 8, P.M., twelve pencillings of a solution of six grains acetate of morphia to the drachm of water, the patient being cautioned not to swallow, and to gargle thoroughly with

R. Acidi tannici,
Spts. Viui rectif, aā 3j.;
Aquæ, 5 vi. M.

On the following morning, still being sensitive, the pencillings were repeated in the same way, at 7.30 and 9.30, and at 11.30 the local anaesthesia was complete, and the tumor was scarified and cauterized.

On May 31st, the second operation was undertaken. On the previous evening, at 6.30, chloroform pencilling; at 7.30, pencilling with morphine, and the next morning, at 7.30 and 10.30, the same repeated. At noon, there was not time enough for the operation, so at 3.30 patient was again pencilled, and at 5.30 the anaesthesia was complete.

CASE II.—*Epithelioma*. Pencilling on the previous evening; in the morning, local anaesthesia, with pretty marked general narcosis.

CASE III.—*Epithelioma*. One pencilling previous evening; two in the morning, complete anaesthesia.

CASE IV.—*Fibrous Tumor*. Pencilling in the same way. Complete anaesthesia.

CASE V.—*Sarcoma of Trachea*. Dec. 21st, evening, pencilling with chloroform and morphia. At 8, A.M., and 10, A.M., repeated, so that in all about 18 grains of morphia was used. Narcosis of larynx complete; but, owing to the pencilling with chloroform, an extensive œdema prevented the success of the operation. Dec. 29th, three pencillings with chloroform and six with morpheine, at 7 and 8, P.M., respectively. 30th, at 7.30, six morphine pencillings. Complete anaesthesia. This patient was operated on several times, and,

at all the subsequent operations, the anaesthesia (which was not very intense) was produced by pencilling with morphine alone six times.

The results of these cases show that a complete anaesthesia of the larynx can be produced, and, despite the large amount of morphia used, without danger to the patient.

The most successful method is that of pencilling with chloroform one hour previous to the pencilling with morphine, which latter should be done two hours before the operation is attempted.

The amount of morphia used by both Türck and Schrötter is about the same, namely, nine to ten grains, either in concentrated solution applied a few times, or a more dilute one, more frequently used.

Dr. Schrötter said, however, in his lectures last winter, that, while he had never had any dangerous consequences from this application, it behoved every man to use the greatest care, and to have the patients constantly under the eye till all risk of fatal narcosis was past.

SPASMODIC CONTRACTIONS OF THE NECK OF THE BLADDER RELIEVED BY CYSTOTOMY.—Dr. Parona, of Novara, reports at length two cases in which cystotomy was successfully practised for the relief of spasm of the bladder. The first case was that of a man whose genito-urinary apparatus had been the source of uninterrupted suffering for a period of eight years, the symptoms being acute pain in the vicinity of the gland and a frequent desire to urinate, all efforts at expulsion being, however, futile. The administration of quinine with narcotics, bromide of potash, atropine, the application of counter-irritants and electricity, and the injection of phenic acid were attended by no favorable result. The neck of the bladder was, therefore, divided by the aid of Mercier's prostatic incisor, and in the course of twenty-five days a complete cure was effected.

In the second case, the symptoms were similar to those of the first, being the sequence of a neglected gonorrhœa. The pain was so severe as to give the patient no rest night or day. As in the first case, there was no evidence of haemorrhoids, calculus, or prostatic tumor. The treatment consisted in the injection into the bladder of phenic acid, tannin and laudanum, and nitrate of silver, all of which afforded but temporary relief, and a like result attended the exhibition of bromide of potash, inunctions of belladonna, as well as the hypodermic injections of morphine and atropine. Forced dilatation of the neck of the bladder was next resorted to, but this only aggravated the trouble. After three months had been wasted in this inefficient treatment, it was determined to divide the muscles which seemed to be the seat of the contractions. The perineal section was, therefore, performed (median operation), and the result was still more favorable than in the former case, for at the end of twelve days no trace of the former symptoms remained.

Parona concludes by observing that equally satisfactory results have attended this operation when it has been performed with the view of extracting a calculus, but where no calculus could be found, after the bladder had been entered.—*Le Mouvement Médical; Rivista clinica di Bologna*, 1873.

Progress in Medicine.

REPORT ON SURGERY.

By J. COLLINS WARREN, M.D.

(Concluded from page 615.)

On the Operative Surgery of the Foot and Ankle-joint. By HENRY HANCOCK. London. 1873.

This is a series of lectures delivered by the author before the Royal College of Surgeons during the years 1865-66, with additions bringing them down to the present time. Lecture I. is devoted to the anatomy of the foot. In Lecture II., we find an interesting account of that disease of which we hear so little in this country, namely, perforating ulcer of the foot, or the *mal perforans* of French writers. As described by the latter, it consists of an ulcer situated usually on or near the ball of the great toe, with thickened edges which possess extreme insensibility. It commences in a corn, which is followed by the formation of an ulcer, assuming gradually the characteristics above described. The disease penetrates to the bone or joint, which eventually is found also to be affected. The cases described by the author present some differences from the above picture. The patients were generally affected in several parts of the foot at the same time, although the bones attacked were chiefly the phalanges and the heads of the metatarsal bones. There was considerable swelling and thickening of the soft parts, in which existed several sinuses. The characteristic ulcer is not always described as being present, however, and the insensibility of its edges is not alluded to. There was, in all cases, an offensive sweating of the foot. Frequently, both feet were attacked. Other parts of the body, as the hands, are described as being affected by the disease. It is considered to be of constitutional origin, and in many cases several of a family were the victims of the disease. It is also thought to be hereditary. The author lays stress upon the fact that the disease invariably commences in the region of the anterior extremities of the metatarsal bones and their joints with the toes, and that its tendency is to confine itself to that region, while there is complete immunity of the region of the heel. If, therefore, after removing the diseased bone and soft parts, the disease returns, it is advised to remove the whole of the metatarsal bones, by either Chopart's, Syme's or Pirogoff's amputation. An account is appended of a disease known in India as tubercular disease of the foot, and supposed to be identical with the perforating ulcer. There is, however, much greater alteration in the soft parts and more extensive disease of the bones. (The *Centralblatt* for Nov. 1 gives a case of M. Verneuil's, where the ulcer was situated on the left calf; amputation was performed, and the disease returned in the stump, with severe neuralgic pains. The resection of the peroneal and tibialis anticus nerves was then tried, but with what success was not stated.)

In regard to amputations of the foot, Mr. Hancock's conservative tendencies are shown in the following suggestions as to operations upon the foot.

"(a.) That we should perform our operations as close to the diseased or damaged structure, and preserve as much of the foot as possible with safety to our patient.

"(b.) That, when practicable, we should cut through the tarsal bones with a saw in preference to disarticulating them.

"(c.) That we should avoid the destruction of joints whenever we can do so.

"(d.) That disease of one articulating surface does not of necessity demand the removal of the entire bone; as, for instance, when confined to the tarso-metatarsal joints, or to the joints between the cuneiform and scaphoid, it is not always necessary to remove the whole of the cuneiform bones on the one hand, or of the entire scaphoid bone on the other. In such cases, however, the diseased portion should be removed by a clean cut made with a saw, and not be bruised off by a gouge or chisel.

"(e.) That, whilst the openings in the skin cannot be relied upon as indicating the exact situation of the bone mischief, the existence of these openings, even if there be several, or the thickening and discolouration of the skin and soft parts, do not of themselves contra-indicate operative procedure, since, as is pointed out by Sir W. Fergusson, the soft parts, when relieved of the source of irritation, will speedily return to their natural condition."

He strongly condemns the practice of sacrificing any bone or joint of the foot for no other reason than that a particular operation, as, for instance, Chopart's, should be performed.

The author reviews, at length, Syme's amputation at the ankle-joint, and defends it against the numerous objections which have been raised. The results of this operation, he says, are most favorable in England. Pirogoff's operation is also favorably noticed. In comparing the two operations, he remarks:—"As regards the occurrence of suppuration, the percentage of deaths, of secondary amputations, of recoveries and periods of recovery, the evidence of British surgery is in favor of Syme's operation; whilst as respects sloughing of the flap, it is decidedly in favor of Pirogoff's proceeding. Syme's operation appears to me to be unquestionably the best for disease, and Pirogoff's for accidents of civil life, since by it we preserve an increased length of limb."

Ligneroll's, or the subastragaloïd amputation, possesses an advantage over both the above in preserving the ankle-joint intact, while the natural heel structure is equally obtained. There is a disadvantage, however, resulting from the tendo Achillis forming fresh attachments, and pulling up the astragalus behind, by which the head of the bone is forced downwards, so that the patient, in walking, may rest on this prominence instead of the broad under surface of the bone. This may be prevented by removing the head of the astragalus at the time of the operation. This operation can, in certain cases, be substituted with advantage for Syme's or Pirogoff's. In case disease of the tarsus does not extend to the astragalus, while only the anterior portion of the os calcis is affected, Mr. Hancock has devised a modification of the subastragaloïd, which consists in leaving the posterior third of the os calcis and turning it up under the astragalus. This he has tried in one case, and with successful result.

Mr. Hancock claims to have been the first to introduce excision of

the ankle-joint into the arena of British surgery. This operation he considers a valuable one, and infinitely preferable to amputation for disease of the ankle-joint, and expresses regret that it is not more frequently performed. He makes a semi-lunar incision, extending across the front of the joint to behind the malleoli on either side. This enables the surgeon to saw through the bones without injury to tendons or arteries, and to see clearly what he is doing. He does not speak of the advantages of saving the periosteum of the tibia and fibula, as done in Langenbeck's cases, where considerable portions of these bones were reproduced. The cut surfaces of the tibia, fibula and astragalus are placed in apposition, while in Langenbeck's method a space is left for the reproduction of bone, the normal length of the limb being thereby maintained. The author objects to Chopart's amputation, on account of the sacrifice of the scaphoid bone, the support of the head of the astragalus being thus destroyed. He therefore recommends that this bone be allowed to remain, and that the cuboid be sawed through on a level with the most prominent portion of the scaphoid. It is of advantage to save even a portion of the scaphoid. The resulting stump is excellent, the patient being able to walk, not only on level ground, but up ladders without difficulty.

Excision of a portion or the whole of the os calcis is recommended for disease of that bone, and cases are given to show that this is not an operation attended with as grave results as has been supposed, and that the resulting foot is a useful one.

On the Mechanical Treatment of Diseases of the Hip-joint. By C. F. TAYLOR, M.D. New York: Wm. Wood & Co. 1873.

Dr. Taylor, in this work, describes a new hip-splint, which appears to possess several advantages over those now in common use.

The article is handsomely and clearly illustrated by numerous drawings, which represent satisfactorily the few important points in the treatment of this disease, which he desires to impress upon his readers. The text is little more than a description of the illustrations, together with a brief exposition of the theory on which the treatment is based. The first chapter contains a reference to a large number of cases observed in the "New York Orthopedic Dispensary and Hospital." Statistics drawn from these cases bring him to the conclusion that, so far as regards the mechanical treatment, disease of the hip-joint may be regarded as essentially traumatic. This broad statement, he says, is strongly confirmed by the fact that the disease, when occurring in a clearly strumous constitution, runs a characteristically more variable and less benign course. Owing to its peculiar character, and the support which it receives on all sides by powerful muscles, the hip-joint is little liable to those slight and passing injuries which we meet with in other joints. But when direct force is applied to it by a vertical blow, or by a lateral force by which the head of the bone is driven directly in upon the socket, without the modifying influence of muscular action, a strong impact is made, which is liable to produce injury. The chief cause which prevents a diseased movement from terminating by resolution is the pressure exerted upon the joint by the muscular rigidity made necessary to diminish the immediate pain and injury of motion. Moreover, every movement and the weight sustained are transmitted directly to the

joint, because of the rigid and inelastic condition of the muscles. If we add motion to a diseased and compressed joint, we cannot wonder, he says, at the destructive course disease of the hip-joint ordinarily runs.

There exist, then, two prime indications for mechanical treatment:

1st. To relieve pressure in the joint, due to muscular contraction, by temporarily destroying the muscular irritability and contractility.

2d. To protect the joint from weight and concussion.

The indication for arresting motion in the joint, which is well met by stiff bandages, pertains only to a condition of rigid muscular contraction, but no such necessity exists after all muscular rigidity has been overcome. The use of extension by weight and pulley is not approved of by Dr. Taylor, on account of the necessary confinement and the hygienic disadvantages connected with this form of treatment. It is, moreover, capable of overcoming the action of but one set of muscles, the flexors. There exist no means of regulating the direction of the force, or to antagonize any set of muscles which may be more especially implicated in the injurious contractions. Sayre's splint, also, is not only open to this objection, but, being applied above the knee, permits motion of the knee-joint, a disadvantage, in the opinion of the author, as it necessarily diminishes motion at the hip-joint, which is useful after complete relaxation of the muscles has been obtained. The adduction of the thigh, nearly always present, brings a strain upon the knee, resulting, often, in relaxation of the internal lateral ligaments and genu valgum.

It is important, indeed absolutely necessary, to overcome *all* muscular action and to remove *all* pressure upon the joint. One must not be content to stretch the muscles, simply; they must be stretched till they yield.

The instrument which, in the author's opinion, answers these indications consists of a hollow rod of steel, reaching from the ankle to the hip, with a foot-piece working in the lower end, and capable of being lengthened or shortened.

The upper end is attached to a pelvic band, made of steel, strong enough to support the weight of the body without yielding. To this band are attached two perineal straps. A hinge joint permits flexion and extension of the thigh on the pelvis, the knee, however, being kept immovable. A screw is so arranged as to force the shaft of the instrument and the opposite side of the pelvis farther apart, in case it is necessary to abduct the leg. Before applying the apparatus, the limb is encased in adhesive strips, which reach to the ankle on either side. The ends are made strong by putting several thicknesses together and attaching a buckle. A bandage being applied over this, the instrument is adjusted while the leg is retained in its abnormal position, the patient lying down. The buckles are then attached to straps going under the foot-piece and extension is made. There should always be an interval of about an inch between the sole of the foot and the bottom of the instrument. If there is much flexion, the limb should be kept in an inclined plane, and the distortion treated by gradually letting down the inclined plane, care being taken not to bring force to bear upon the spine. If much adduction, extension of the shaft will pull upon the opposite perineal strap and tilt the pelvis. This can be also corrected by the screw alluded to above. A few days

suffice to stretch the contracted muscles, and the patient can then walk about. When in the upright position, the patient practically sits upon his perineal straps. There being an interval between the foot and the ground, no pressure, whatever, is brought to bear upon the hip. After all pain and tenderness have ceased, and there is no longer a disposition of the muscles to contract, and there is free motion of the joint, the instrument should be abandoned and an ingenious contrivance substituted, which can be worn underneath the clothes, for the purpose of protecting the joint until the cure is complete.

The writer concludes his treatise with a few clinical remarks. In regard to abscesses, he says: "In incipient cases, promptly and carefully treated, they are unknown. In later cases, the presence of a recent abscess, if promptly evacuated, does not necessarily prevent a complete restoration of the joint. No abscess should be allowed to remain unopened a single day after its existence is discovered. . . . If an abscess is evacuated before it has exerted injurious pressure from accumulation, it seldom discharges more than a few weeks. The retaining an abscess is apt to cause necrosis of the bone with which it lies in contact, and the new disease thus set up is often much more serious than the original one in the joint."

IMPERFORATE ANUS.

At a recent meeting of the Paris Surgical Society, M. Verneuil called attention to the excision of the coccyx as a means of facilitating the performance of the operation for imperforate anus. Ten years since, an infant was brought to him with the anus in a state of natural conformation, but having an imperforation at the distance of about a centimetre. As the end of the gut could not be found, Littre's operation was performed. At the autopsy, it was observed that an excision of the coccyx would have enabled the rectal ampulla to be readily reached. Since then, M. Verneuil has performed such excision in the cases of five boys and one girl, with the result of saving five of them without resorting to Littre's operation.

The mere puncture of the ampulla he regards as dangerous, and only to be attempted as a means of diagnosis. Even when not indispensable, the excision much facilitates the operation and abridges its duration; it also facilitates the suture of the intestine to the skin, thus preventing infiltration of faecal matters and consecutive stricture. When the cul-de-sac of the rectum is placed very high, and is but slightly movable, it is to be feared that traction may lacerate its fragile parietes; but, after excision of the coccyx, depression of the rectum is less necessary, for it can then be carried more backwards and fixed to the skin. This M. Verneuil did in three of his cases, and the anus thus carried back performed its function very well at a later period.

There is no incontinence of faecal matter, there being rather a tendency to coarctation, which may be overcome by the daily introduction of the little finger. There are cases of imperforate anus, however, in which this excision is not required, and the portion removed is usually very small.

PATHOLOGICAL ANATOMY OF HYDROCELE.

A communication on this subject, to the Société de Chirurgie, by M. Lannelongue, is given in the *Gazette Hebdomadaire*, Aug. 15, 1873.

In simple hydrocele of the tunica vaginalis, the relations of the epididymis to the testis are changed ; the epididymis is separated from the gland, is placed above it, and elongates and spreads itself out on the surface of the tumor. When an effusion takes place into the tunica vaginalis, its two layers remain no longer in contact. The cavity enlarges at the expense of the parietal layer, which is stretched in all its parts. The testicle remains immovable, while the epididymis becomes more movable and floats in the cavity of the tunica. If the effusion increases, the epididymis is still further removed from the testis, and its shape is considerably modified. The middle part of the epididymis is more and more drawn to the parietal layer, while its head and extremity are in contact with the testicle. M. Lannelongue made these observations on five hydroceles of the size of a fist, in patients over forty-five years of age ; he has dissected, in all, eighteen hydroceles. In none of these five cases were there spermatozoa, either in the seminal vesicles or in the epididymis, although the testicles appeared healthy. He quotes other observers who have noticed this absence of spermatozoa. M. Liégois published four observations taken from living subjects. In two cases of double hydrocele, there were no spermatozoa in the spermatic fluid. Another had an epididymitis on one side and a hydrocele on the other ; an examination showed five to twenty spermatozoa in the place of one hundred and fifty to two hundred. M. Roubaud reports the case of an individual who had two hydroceles with no spermatozoa ; after puncture, the spermatozoa reappeared. When the fluid collected again, the spermatozoa disappeared from the seminal fluid.

Hydroceles of small volume do not bring about complete suppression of the spermatozoa ; but these corpuscles are altered in the seminal ducts. M. Duplay noticed this fact twenty years ago. Some of the spermatozoa were without a head, in others the tail was wanting. It is evidently a retrograde metamorphosis. M. Lannelongue does not think that this disturbance of function is due to an induration of the epididymis described by M. Panas as accompanying hydrocele. There is no such induration, but the fibrous envelope of the tail of the epididymis can be found to be considerably thickened after the hydrocele has been tapped. He recommends prompt treatment of the disease, to prevent these alterations from taking place.

DIAGNOSIS OF STONE.

Dr. Henry H. Head, physician to the Adelaide Hospital, reports a case, in the *Irish Hospital Gazette*, July 15, 1873, in which auscultation was employed as an aid to diagnosis of stone in the bladder. He says :—" I sounded his bladder, and was pretty sure I detected a stone, but did not think the evidence absolutely conclusive, when it occurred to me try auscultation, to see if it would assist my diagnosis. I accordingly applied one end of an India-rubber tube to the top of the catheter with which I was examining him, and the other to my ear, and at once heard, with greatest distinctness, the instrument strike the stone." He afterwards performed many experiments with substances of various sizes and degrees of hardness, placed in a bladder distended with water, and found the sense of hearing to be more delicate than the sense of touch. " Even a small piece of chalk, not larger than a pea, could be most easily detected ; the slightest touch

of the catheter or sound being conveyed to the ear, when it could not be recognized by the hand." The stethoscope "consists of a small vulcanized India-rubber tube, about eighteen or twenty-four inches long, to one end of which an ivory ear-piece is attached, similar to that used for ear-trumpets; and into the other end is inserted a metallic plug, with a tapering end protruding, which should be pressed tightly into the canal of the catheter; or, if a solid sound is used, the end of the tube, without the plug, may be fastened to it."

TREATMENT OF SHORTENED LIMBS.

Prof. Francesco Rizzoli, of Bologna, reports* a method for treating the lameness produced by a shortening of one inferior extremity, practised by him four times successfully, which consists in producing an artificial fracture of the healthy femur and allowing it to heal with a corresponding amount of shortening. The case reported was that of a girl, thirteen years old, who had considerable shortening from hip disease of the left side, the tip of her great toe scarcely touching the ground. The right femur was fractured by means of an "osteoclast," and the lower and upper fragments were pushed by one another sufficiently to make the two limbs of equal length. On the twentieth day, the patient was walking about. The author mentions deformities of the pelvis which arise from shortening of one leg, and quotes a series of cases, giving the measurements. A number of illustrations are also given.

WANKLYN ON THE ANALYSIS OF TEA.—Mr. Wanklyn, in a recent number of the *Chemical News*, records some results of interesting experiments in the analysis of tea. He thinks there is no doubt that tea is sometimes adulterated with iron filings and other preparations of iron, but he wishes to call the attention of public analysts to the importance of investigating the ash of samples of tea, for he points out that, as tea-ash contains naturally 4 per cent. of oxide of iron, it is manifest that the mere qualitative detection of oxide of iron is no valid proof of adulteration. Zöller found the ash of tea-leaves to be 5.63 per cent. in pure tea, about which there could be no doubt; Mr. Wanklyn finds a very similar result—an average of 5.92 per cent. with ordinary commercial tea, absolutely dry. The method of investigation is very simple. "I am in the habit," he says, "of employing about two grammes of the dried leaves for the experiment. These I burn in a small platinum dish, and, when the resulting ash has become grey, I allow the dish to become cool, and weigh it together with its contents. The ash is then heated to boiling with a little water, and the solution filtered, and the filtrate evaporated to dryness in a small platinum dish; the resulting residue is then ignited, cooled and weighed. Thus I get determinations of 'total ash,' and 'soluble ash'; the 'insoluble ash' is found by difference." Treated in this manner, the ash of Paraguay tea is the only ash capable of being mistaken for the ash of tea; the total percentage of itself excludes all others. As an incidental circumstance, Mr. Wanklyn has been led to notice the great fragrance of a decoction of beech-leaves, and its possible use as a beverage.—*British Medical Journal*.

Bibliographical Notices.

Transactions of the New Hampshire Medical Society for the Year 1872.
Manchester. 1872. Pp. 96.

Transactions of the Medical Society of the State of California during the Years 1871 and 1872. Sacramento. 1872. Pp. 228.

The only papers which possess other than local interest contained in the former of these Transactions, are the annual address and the annual oration. The address was delivered by the President, J. H. Hall, M.D., of Portsmouth, who undertakes, in rather a rambling way, to give some of the reasons why the medical profession does not receive from the public that favor and consideration which it merits, affirming that the profession suffers from the *mala praxis* of a certain class of precocious amateur physicians, who, having embraced that fashionable specialty, uterine disease, are inclined, in many instances, to subject their patients to the outrage of a needless examination. He denounces, therefore, quite bitterly, those physicians "who go about with a sable satchel under their arm, filled with speculums, sounds, tents, &c., hunting for an opportunity to make examinations per vaginam and explorations per speculum."

No better criticism could be made upon these loose reflections upon gynaecologists than that contained in the oration of Dr. J. W. Parsons, which followed the address. His subject, by a strange coincidence, was "The Necessity of recognizing Uterine Disease," and he adduces very strong proof that pelvic diseases are of very common occurrence with females, giving rise to a great variety of sympathetic symptoms and reflex disturbances, simulating, in many instances, organic and functional disease of remote organs. Dr. Parsons deems it the imperative duty of the honest physician to understand clearly the pathology and treatment of the female organs of generation. To ignore this class of affections, as is too often done by those whose limited educational advantages have not rendered them familiar with this specialty, will only tend to prolong the sufferings of many patients; and, when the ignorance or neglect of the physician is at length exposed, it cannot fail to redound to the injury of the delinquent attendant.

The Transactions of the California Society embrace a period of two years, and include no less than fourteen papers, in addition to the address of the President. In this address, the retiring President passes in review some of the more important questions which affect the medical profession at the present time, and touches upon the relations of medical men to irregular practitioners. In prosecutions for malpractice, he holds that the plaintiff should be obliged by law to give security for the payment of costs, in case he should fail to sustain his charges.

Dr. Gibbons manifested but little sympathy with the very general desire for reform in the constitution of the American Medical Association, believing that this Society, as at present constituted, does represent perfectly the rank and file of the profession. It is exactly suited to the tastes and habits of Americans, he says, and has much more influence over them than would be exerted by a body less democratic. He fails to appreciate the importance of a high standard of education,

and ridicules the idea of sending our young men to Europe for study. So far from sympathizing with the attempt now being made at the Harvard school, and elsewhere, to elevate the standard of education, he follows in the wake of Dr. Yandell, and proposes to make even more easy the path to the doctorate. It is refreshing to turn from these pernicious views to the able paper of Dr. Edward R. Taylor, of San Francisco, entitled, "Some Thoughts on Medical Education," in which the importance of educational *thoroughness* is strongly urged. A low standard, he says, detracts from the dignity of the profession, offers a premium on mediocrity, and tends to quench the fires of honorable ambition. If, on the other hand, the standard is placed high, some will assuredly reach it, others will come within a short distance, while all will have accomplished a distance of which they would have fallen far short, had the educational requirements been less.

The Comparative Anatomy of Domesticated Animals. By A. CHEVEAU. Second Edition, enlarged and revised, with the assistance of S. ARLOING. Translated by GEORGE FLEMING, F.R.C.S. With 450 Illustrations. New York: Appleton & Co. 1873. Pp. 957.

THE handsome volume before us is a translation of a new edition of Cheveau's well-known work. It is precisely what is needed, not only by veterinary surgeons, for whom it is especially written, but by comparative anatomists and physiologists. The author, taking the horse as his text, describes the different structures with the care and minuteness which is found in good text-books on human anatomy, stopping frequently to compare the parts with those of other domesticated animals, and, finally, with those of man. The style is very good; the author has, we think, hit the proper degree of accuracy of description, midway between the extremes of pedantic minuteness and of crudity. The animals considered are the dog, cat, pig, ox, sheep, goat, horse, ass, and the hybrids of the last two. The translator has omitted the remarks on the camel and rabbit, which is well in the case of the former, but hardly of the latter, as knowledge of its anatomy is useful to experimenters. We wish that the sections devoted to transcendental anatomy had been suppressed, for a book of this kind should be practical, and this one is so in every other respect. It provokes us to see the old archetype skeleton, now so shaky on its rusted wires, set up in the midst of a collection of valuable facts as something to be admired. This offends us, but it does not detract from the value of the book, for these passages may be easily skipped. The translation is very good, and the illustrations and binding admirable.

BOOKS AND PAMPHLETS RECEIVED.

Proceedings of the Medical Association of the State of Arkansas. Little Rock. 1873. Pp. 55. 8vo.

The Toner Lectures. Lecture I. On the Structure of Cancerous Tumors, and the Mode in which Adjacent Parts are invaded. By J. J. Woodward, Assist. Surg. U.S.A. Washington. 1873. Pp. 40.

Varicocele and its Radical Cure. By Octavius A. White, M.D. (Re-printed from the New York Medical Journal.) 1873. Pp. 13.

Transactions of the American Otological Society. Sixth Annual Meeting. Boston: Mudge & Son. 1873. Pp. 131.

Boston Medical and Surgical Journal.BOSTON : THURSDAY, DECEMBER 25, 1873.

THE inquest at Lynn, in the case of Mrs Homan, is at last over, and the jury has rendered the following verdict:—

“That the said Elizabeth M. Homan came to her death at her residence, 7 Pleasant Street, Lynn, on the fourth day of December, 1873, between the hours of four and five o'clock, P. M., from the combined effect of sulphuric ether and nervous exhaustion, while undergoing a trifling surgical operation; and the jury further find that the etherization and operation were properly done, and that prompt, energetic and all necessary measures were employed to resuscitate the patient.”

Instead of following the long and tedious account of the case, as elicited by the evidence, we will endeavor to state it briefly.

In the course of November, Dr. Bixby, of Boston, was called in consultation by Dr Graves, of Lynn, to see the deceased, who was suffering from some obscure pelvic trouble. On November 25th, Dr. Bixby, by means of the aspirator, detected and emptied a pelvic abscess. It filled up again rapidly, and, on December 4th, Dr. Bixby considered another operation essential to the safety of the patient, who was apparently in a very poor condition. Mrs. Homan was very unwilling to take ether, but tacitly consented to the persuasions of the physicians. Dr. Graves gave the ether, and Dr. Bixby attended solely to the operation. He punctured the abscess with a trocar through the vagina. Over a pint of pus had escaped, and more was flowing, when the patient was found to be dead. Here the evidence is somewhat conflicting: Dr. Bixby thinks he was the first to perceive that the patient was perfectly motionless, while Dr. Graves states that some five minutes after the discontinuance of the ether he noticed that the patient gasped, upon which he pulled the tongue forward, that she then gasped once or twice more, and expired; that he then notified Dr. Bixby. Every effort at resuscitation was made, and apparently well made, but artificial respiration and the battery were alike useless. After rather more than half an hour, they left the house and went for the Coroner. An irregular practitioner was then called in, who testified, as did also some of the naturally excited relations, that the pulse was still beating. We pass over this evidence without comment. Dr. Pinkham, the Coroner, who was the next to arrive, thought that life was extinct. The ether was examined by Dr. Wood, and found pure. The autopsy showed dermoid cysts in each ovary, chronic inflammation of the bladder, and enlargement of the uterus; between these two organs was the cavity of the abscess. The heart was weak, but not diseased.

We shall not discuss the Coroner's verdict, for which the medical community can hardly be considered responsible; although we might, perhaps, ask whether, in a case of extreme nervous exhaustion, with cystitis, the evacuation of more than a pint of pus from an inflamed abscess near the fundus of the uterus, can be considered "a trivial surgical operation." We pass directly to the main questions at issue.

This case suggests two questions: 1st. Did anæsthesia contribute to death? 2d. Was the anæsthetic employed better or worse than any other? To the first question, we reply that anæsthesia undoubtedly contributed to death—it often does. It is a depressing influence of great power, and in an operation of this kind a full dose is requisite to relax the muscles of the pelvis and thighs. Such a dose, in the case of a feeble patient, often demands great vigilance. Without intending any objectionable criticism, we think it fair to say that were the operation to do over again, the result might be more favorable. How often do we see weak patients barely carried through operations under anæsthesia by the combined skill of many experienced assistants? We here leave this part of the subject, distinctly recognizing that anæsthesia was, in this case, one of the causes of death; an occurrence familiar to all.

To the second question we reply as distinctly that in our belief ether was the best anæsthetic that could have been used. Had chloroform been employed, the patient would have had, not only the same chance of dying from the depressing influence of anæsthesia, but, also, the additional chance of sudden death from that peculiar and toxic property of chloroform by which it is possible for twenty drops, even when skilfully administered, to suddenly kill a strong and healthy man. This danger was avoided by the use of ether, which owes to the absence of this property its superiority to chloroform.

THE approach of winter and of the holidays calls to mind the sports which are prominent features of the season. We are strong believers in recreation, especially in the open air, and if boys' games be rough, they are none the worse for it, provided they bring no great danger to the players or passers by. On the other hand, every citizen has the right to traverse the great thoroughfares without danger to life or limb, and, in support of this right, we protest against the extent to which coasting is permitted on the Common. No one who has seen the, at certain times, almost unbroken succession of sleds, rushing down the long, steep paths, will forget the spectacle. There is a fascination in watching the constant changes of the scene; to note the varieties of sleds, the toy-like one of the small boy, lately escaped

from the nursery, the sharp and substantial "clipper" of the typical school-boy, and the great "double runner," carrying, with terrible velocity, its freight of five or six nearly or quite grown men. But there is a less pleasing picture, that of old men and young children, timid women and invalids, waiting to cross the track. The wise well know that the slightest error in estimating the opportunity, the slightest slip on the ice-covered ground involves serious harm, if not loss of life itself. The ignorant and stupid rush blindly on their fate, and appear as "items" among the accidents in the next morning's paper.

It may be said that this is out of our province; but if it be our duty to warn the public of impending epidemics, why not of accidents, as well? We will, also, suggest the remedy. The Common is large enough for all, but let coasting be permitted only in places where the sleds will not cross any important line of travel. The injury to the coasters will be more than balanced by the security of the passers, who have, at least, equal rights. We have, however, little hope of reform for the present. It was not till eighty millions had been lost by a single fire that the city seriously undertook to suppress the indiscriminate burning of gun-powder on the Fourth of July, and as, in this case, the loss is only of lives, we suppose we must resign ourselves to it. We may, however, petition the municipal government to establish one or more ambulances on the Common for the reception of those "butchered to make a schoolboy's holiday."

COUNTERFEIT DIPLOMAS.—The establishment on Pine street, Philadelphia, where medical degrees, regular and honorary, are conferred at so much a head, has been several times sharply overhauled, but has continued prosperous in spite of its overhauling. The greater the discredit into which the "American University of Philadelphia" has fallen at home, the greater the energy with which its business has been pushed at a distance, and the more lucrative its returns have been.

It must be allowed that there is a large element in human nature that likes to be humbugged; otherwise such frail securities as El Paso railroad bonds and Emma mining stocks would never have had a successful run in foreign exchanges, where nothing authentic was known about them, and from the nature of the case it was impossible that anything could be known. Upon this same credulity and conceit, manifested in a different way, the shrewd Yankee operators in university titles have played successfully, and they have found the market lucrative enough to pay for great risks at home. There is a good prospect now that this particular kind of swindling will be brought to an end. Responsible charges have at last been filed, and the "American University" will be called to answer upon what warrant its proceedings are based. The charges come, this time, from Germany, where the sale of bogus titles has been vigorously carried on through resident agents. The chief agency was in charge of "Dr.

P. F. A. Vander Vyver, LL.D., Jersey, England, to whom all persons who wished to be promoted to any degree by this university, without being personally present, were to send their applications, and \$120 in money—being the total cost of the diploma.

This eminent doctor of laws advertised extensively in German and other European papers, setting forth the facility of getting degrees in this way, without the usual inconvenience of previous study, or even of a journey to America and back again. Here and there gentlemen of moderately good standing among scholars, have been tempted by Dr. Vander Vyver's prospectuses to bid for these paper titles, and have worn them with great complacency, till the swindle was fully explained to them. The authorities of Philadelphia, in company with the officers of the University of Pennsylvania, with which the bogus university has been confounded, are now at work, with the evidence of its deception in their hands, to bring its officers to justice, or, failing in that, at least to put a stop to their business.—*Boston Daily Advertiser.*

BELLADONNA PLASTERS IN VOMITING.—The *Medical Times and Gazette*, Oct. 11, 1873, states that, at a recent meeting of the Paris Therapeutical Society, Dr. Guéneau de Mussy read a communication on the good effects of belladonna plaster in the symptom of vomiting, whatever the nature of this may be. Bretonneau strongly recommended belladonna in the obstinate vomiting of pregnancy. He prescribed frictions of the extract diluted with water, which was rubbed into the epigastrium during several minutes two or three times a day. In many instances, this treatment relieved the vomiting when all other means had failed. For more than twenty-five years, Dr. Guéneau de Mussy has extended Bretonneau's treatment to all descriptions of vomiting, whatever the cause may be; but he has found that a plaster is a better excipient of the extract, allowing of its continuous application being conveniently made. It consists of a diachylon plaster and theriac plaster, of each two parts, and extract of belladonna one part, the plaster being twelve centimetres in diameter. It may remain applied to the epigastrium twelve or fifteen days without being removed. It has succeeded in a very great number of cases, either in entirely relieving vomiting or greatly mitigating it. Dr. G. de Mussy entertains great hopes of the benefit to be derived in the use of the belladonna plaster as a prophylactic and curative in sea-sickness.

CHOLERA DEJECTIONS AND VOMIT, in the Dresden Hospital, are received in a mixture of sawdust and charcoal, upon which petroleum is then poured, and the mass burned.

The Hospitals.

MASSACHUSETTS GENERAL HOSPITAL.

(Saturday, December 13, 1873.)

OPERATIONS were performed in the four following cases by Dr. Cabot:—Abscess of Gluteal Region, Contracted Knees, Tumor of Back, Cancer of

Cheek. In addition, an Abscess, a Fistula Ani and a Necrosis, which do not require comment.

Abscess.—Ten years ago, the patient noticed, after riding, a small, painful spot midway between the ischial tuberosity and the great trochanter of the right side. The tenderness subsided, but a small lump remained, which, eighteen months ago, again became painful, and has remained so to the present time. It was laid open freely. The quantity of pus was small, and it was enclosed in sponge-like cavities. The diseased tissue, on section, resembled that of a carbuncle.

Contracted Knees—congenital, in a child six years old. The joint had been manipulated, but no continued extension had been employed. Under ether, one leg was completely, the other partially extended, and splints applied. Dr. C. remarked that the condition of the joints was not due to tendinous contraction.

Tumor of Back—in a woman, without apparent cause, and of a year's duration. It was situated just below the inferior angle of the scapula, closely adherent to the fascia overlying the ribs, and also to the skin which was slightly ulcerated. It occupied an area two by three inches, and projected slightly from the surface. The growth was encircled by two semi-lunar incisions and dissected out. It involved the thickness of the latissimus dorsi muscle, and was, under the microscope, chiefly inflammatory infiltration.

Cancer of Cheek—in a man. It projected inward from the mucous membrane, in front of the ascending ramus of the inferior maxilla. The cheek was transfixed at a point opposite the last molar tooth, and an incision made extending to the commissure of the lips. The flap was reflected upward, so as to expose the growth, which was then excised. It proved to be epithelial in character, and was of the size of a walnut.

H. H. A. BEACH.

BOSTON CITY HOSPITAL.

LAST Friday, December 19th, the operations were as follows:

Enucleation of the Eye was performed by Dr. Cheever, in the case of a man injured, six days before, by the accidental discharge of a fowling-piece. The patient received the full force of the explosion in his face, the muzzle of the gun being near his head. The shot were of the smallest size; none of them were found beneath the skin of the face, although fragments of powder had penetrated. A single shot had, however, entered the cornea, leaving a symmetrical wound of entrance, plainly visible. The removal of the injured organ was advised, to anticipate the appearance of consecutive trouble, both in this eye, and, sympathetic, in the other eye. The eyeball was found, on removal, to be much disorganized, the vitreous being the seat of an effusion of blood. The shot was not found; an opening in the sclerotic, posteriorly, showed that the wound was a penetrating one.

Dr. Williams operated for Extraction of Senile Cataract, the patient being a woman, 65 years old. The cataract was of the nuclear variety, and was of the kind commonly called "black," the lens being of a dark amber or mahogany color, which gave the pupil a clear appearance, instead of the usual grey or creamy opacity. Dr. Williams operated by the median flap method, making the incision upward with the narrow knife of Graefe, the wound being confined to the cornea. This method of operation was described by Dr. W. as having certain advantages over the peripheric linear extraction of Graefe, in that the wound was smaller and involved the cornea only, that the pupil was exposed to less violence in the extraction of the lens, and that there was less danger of separation of the retina and of subsequent sympathetic ophthalmia.

Dr. Williams removed from the conjunctiva of a child of five years a small growth of the size of a split pea. It had overlapped the lower and outer portion of the cornea, interfering with vision. Its dissection from the conjunctiva left the cornea perfectly clear.

A case of Compound and Comminuted Fracture of the Patella was presented by Dr. Thorndike, the patient having just been admitted to the hospital. The man, a mechanic, fell from a staging, a distance of thirty feet, striking on a pile of rubbish—stones and broken brick. The patella was comminuted, and at its lower, inner border, a compound opening appeared, through which the finger could be passed into the knee-joint. The ligaments within the joint were ruptured, and the insertions of the vasti muscles were lacerated. The joint was filled with blood. This condition of the knee, in connection with a complete dislocation upward of the scaphoid bone of the tarsus on the same side, determined that amputation of the thigh offered the least risk. To this operation, the patient would not consent. Dr. Thorndike accordingly enlarged the opening into the knee, removed several loose bits of patella, with some of the articular and inter-articular cartilage, and made a counter-opening on the outer side of the joint to allow free drainage. An unsuccessful attempt was made to reduce the dislocated tarsus.

On Tuesday, December 16, Dr. Cheever operated, before the medical class, for Strangulated Hernia. The rupture was oblique inguinal, filling the scrotum on the left side. It had slipped down from under a truss while the patient was at stool, on the previous Friday. Complete stoppage of the bowels and vomiting had continued since. The face was flushed, skin dry, abdomen tympanitic. After a moderate attempt at reduction by taxis, under ether, herniotomy was done. The sac contained a quantity of reddish serum. The hernia was of the large intestine, fringed with a good deal of fat in the appendices. The bowel was in fair condition. The stricture was cut upwards, and reduction was found very difficult. The gut did not contain air, but could not be folded in on itself with the finger. There were no adhesions. After the opening had been several times enlarged with the hernia-knife, the patient was inverted, and the hernia finally returned safely. The lower corner of the wound was left open.

Correspondence.

LETTER FROM MANATEE, FLORIDA.*

MANATEE, MANATEE CO., FLA., Nov. 19, 1873.

DEAR SIR.—I have been handed yours of the 3d inst., addressed to _____, of this place, with a request to answer the interrogatories contained therein, which I take pleasure in doing as satisfactorily as I can.

1st. Give a general description of the climate and topography of Manatee, Florida.

Ans.—The climate is warm and genial. During the summer, the thermometer ranges from 70° to 90° Fahrenheit, scarcely ever going above the latter in favorable places. Yet with whatever degree of heat we are visited in the day, the nights, almost without exception, are cool and invigorating, thus allowing the body to recover from any lassitude it may experience in the day. There is rarely a night during the summer but what at some period of it a blanket is comfortable to the sleeper, in a well ventilated room. During the winter and cold months of the year, the thermometer sometimes sinks low enough to give us a white frost, but very seldom to the freezing point; yet the winters are so mild as to permit the cultivation in open gardens, with little care, of the tenderest vegetables. The average temperature of the year is a little above 70 degrees.

Manatee village is situated on Manatee river, about six miles from its mouth, which empties into Tampa Bay, and about twenty-two miles from the Gulf of Mexico. The river is a beautiful sheet of water, about one mile wide at this place. The general surface of the surrounding country is flat,

* This letter, sent us by an esteemed correspondent, was written at his request by a reliable observer.—Eds.

though the banks of the river between the village and its mouth vary in height from five to thirty feet, affording as beautiful sites for private residences or villas as can be found in the southern country.

2d. Is the climate uniform, dry or moist?

Ans.—It is more uniform than any climate in which I have ever lived, or of which I am informed, and as dry as any climate could be with the same proximity to large bodies of salt water, possessing a genial moisture, which is a defence against, and palliation of pulmonary affections. From the first of November to the latter part of June, we have what might be called dry or seasonable weather; much of the weather being of that delicious, balmy character which is found in sunny Italy or the Grecian Isles, with now and then a boisterous north wind, prefaced with more or less rain, which lasts generally from twenty-four to thirty-six hours. From the latter part of June until October or November, we have what is denominated the rainy season, varying each year as to its length and the amount of rain that falls. Some seasons these rains are moderate; again, they inundate the country for a few days by their continuance and intensity. During the later spring and the summer months, we have a daily prevailing wind from the sea in the day time, and from the shore at night. The dews are not heavier, I think, than in the interior States of the Union, nor as heavy as I have seen in Texas, on its coast or in the interior, while fogs are very light and seldom seen.

3d. Is the climate free from malarial influences? Do chills and the various forms of malarial fever prevail at any period of the year?

Ans.—My own experience proves that our coast is freer from malaria than any section in which I have ever resided, to wit, Ohio, Georgia and Texas, while medical statistics prove that all types of bilious or intermittent fever are less severe and less fatal in proportion to the number of population than in any other State in the Union. There are, during the year, occasional cases of chills and other bilious fevers, but I think they are more the result of a disregard of the laws of hygiene than of any climatic influence.

4th. What is the character of the soil, sand or clay? Does water remain upon the surface after rains?

Ans.—The soil is sandy, emphatically sandy, often lying in strata of different colors, from whitish to iron-rust color. Clay is found only in small quantities, chiefly in the hammock lands, but not in quantities to give character to the soil. Water rapidly passes away after rains, remaining in depressions only when prolonged and drenching rains have inundated the land and saturated the soil.

5th. Are there any bodies of stagnant water in the neighborhood?

Ans.—The country is more or less dotted with stagnant ponds, some open, some filled with long grass, and others with a dense growth of bay, oak, water-bush, maple, ash, &c., and in their natural state furnishing a pure, soft, wholesome water, free from malarial exhalations and parasitic growths.

6th. What is the character of the drinking water? Is it free from lime and organic impurities?

Ans.—In the pine barrens, inexhaustible supplies of pure, soft water are found from five to eight feet from the surface of the ground, and, under favorable circumstances, wholesome and free from organic impurities. The water from the wells dug in the rich hammock lands, whose understratum is composed of various marls, is necessarily strongly impregnated with lime and is intensely unwholesome.

7th. What is the growth of the country—long-leaf pine?

Ans.—The general or principal growth of the country is long-leaf (yellow) pine and short-leaf (pitch) pine. The hammocks, which are exceptional, and not characteristic, are covered with red and white bay, ash, hickory, live oak, water oak, paw-paw, maple, elm, dogwood, magnolia, persimmon, wild peach, cabbage, palmetto, and other growths.

8th. What is the effect of the climate upon the lungs? Do patients suffering with phthisis pulmonalis improve in this climate?

Ans.—This section is visited, more or less, in the winter, by invalids suffering with pulmonary affections, and with good results by those who conduct

themselves prudently, and who are capable or susceptible of improvement. We have a pure, soft, exhilarating air, ameliorative to the lungs. This statement is corroborated by the United States medical and census statistics. The census of 1860 shows that the proportion of deaths by consumption in the following States to have been—in Massachusetts, 1 in 254; Maine, 1 in 289; Vermont, 1 in 404; New York, 1 in 473; Pennsylvania, 1 in 380; Ohio, 1 in 878; Florida, 1 in 1,447. In this connection, it must be remembered that Florida has been the sanitarium of the Union, and that a majority of those dying with consumption in Florida are invalids in quest of health.

9th. What are the prevailing diseases?

Ans.—We claim a decided exemption from prevailing diseases. During the later fall and summer months, we have a few scattering cases of chills and bilious or intermittent fever, but forms of a typhus of severe type, or congestions of all characters, are of very rare occurrence.

10th. Please send any records of climate.

Ans.—There are many meteorological data taken here, and at other points of the State, both north and south of this place, as well as other valuable information about the State, found in pamphlets issued from the office of the Commissioner of Lands and Immigration, at Tallahassee. Some of the foregoing data come from one of the same. I endeavored, without avail, to obtain an extra copy to send you, but will write by next mail to Tallahassee, requesting copies of the two last issues to be mailed to you. The point "Piney Bluff," mentioned in your letter, is about fifty miles south of this place. The main land there comes abruptly upon the Gulf of Mexico, while the general features of the surrounding country, though somewhat elevated, are much the same with the rest of the Peninsula, with the same sandy soil, pure water, and growth of long-leaf and pitch pine.

I have endeavored to give you, in the foregoing answers, a true account of the climate and general health and topography of the country, as applicable to good locations in this section, and do not hesitate to say that such places can be selected as possess as great merit for health in a pure, wholesome air and wholesome water as can be found in the world. I came here a youth, in 1852, have since travelled from Connecticut to California, have resided in Texas, Ohio and Georgia, and nowhere have I enjoyed so good health or such exemption from bilious complaints as here, and, until last year, never had an hour's bilious fever engendered here.

This western coast has not received that attention from invalids and others in search of health and warm climates, as the eastern; yet I think, and it is the opinion of many having a knowledge of both, that it is superior, and only requires convenient routes and means of travel, with comfortable hotels, to develope the proof. It only requires a judicious system of railroads, bisecting and ramifying the peninsula, with proper encouragement to immigration, to open and insure the development of one of the finest regions in the world, possessing no superior in the salubrity of its climate, no equal in the extent and variety of the productions of its genial and rich soil.

Respectfully yours, W. A. G.

TREATMENT OF ULCERS.

MESSRS. EDITORS.—Dr. White, in his valuable "Report on Dermatology," published in the JOURNAL for Dec. 11th (page 583), mentions a "new method for healing ulcers," employed by Dr. Nussbaum, the principle of which is so nearly identical with that embodied in the following quotations as to make Dr. Nussbaum's claim to originality in its employment doubtful, to say the least.

"Relieve the tension of the skin or other tissues, by making incisions at right angles with the line of tension." (Gay: *London Lancet*, June 18, 1853, p. 468.)

"Besides the above-mentioned circumstances, there is still another that impedes the healing of ulcers with greatly-indurated borders, that is that the

healing, granulating surface and cicatrix do not diminish and thicken by contraction, because the firmness of the surrounding portion of skin permits no displacement; while, as you know, all granulating wounds decrease to about half their size by contraction, and hence the cicatrizing surface grows smaller, in many cases the granulating surface of these ulcers must cicatrize throughout its entire original extent, because it cannot contract. To render this contraction possible, deep incisions have been made through the skin around the ulcer, and these incisions have been kept open by the introduction of charpie. I have never seen any great benefit from this treatment. As a consequence of the rigidity, also, the new cicatrix is not sufficiently dense, and readily reopens, so that the ulcer once healed soon develops again. To guard against this, it is best to cover the cicatrix with wadding and apply a starch bandage. This dressing should be worn six or eight weeks, till the cicatrix is firm and well organized. I have followed this practice for a long time in all cases of ulcer of the leg, and have every reason to be satisfied with it." (Billroth: *Surgical Pathology*, Am. Trans., 1871, pp. 399 and 400.)

"In the worst cases, where all these means fail" (opium, pressure, blistering, &c.), "it is commonly because the base of the ulcer and the integuments surrounding it are so indurated and so adherent to the subjacent tissues that they will neither stretch nor slide towards the centre of the ulcer, even when healthy granulations form on it and would contract in developing into a scar. To remedy this hindrance of healing, it is sometimes useful to make incisions through the integuments, near and parallel to the margins of the ulcer, so that the gaping of the incisions may give opportunity for the contraction of the granulations on the ulcer." (Paget on Ulcers. Holmes's *Surgery*, 1871, vol. i. pp. 383 and 384.)

H. H. A. BEACH.

Boston, Dec. 12, 1873.

UNUSUAL BEHAVIOR OF THE HEART DURING ETHERIZATION.

MESSRS EDITORS.—I do not know as you wish to hear anything further in connection with the subject of ether, but the following case, which came under my observation during the past week, presents some features which were of interest to me, and which, in an experience as House Surgeon in the Massachusetts General Hospital and in the cases of anesthesia which it has been my fortune to see since that time, I have never noticed with the distinctness which this case presented.

A. R., 80 years old, resident of a country town near Boston, was operated on at the Eye and Ear Infirmary, in May, 1873, for cataract. Ether was administered and the operation performed without the slightest unusual incident. He went home, has since been well, and returned to the Infirmary last week to submit himself to the same operation on the other eye. As is my habit, when giving ether, I noticed the patient's pulse, and discerned nothing abnormal. This was at the moment when I commenced to etherize him, before he had inhaled the anesthetic at all. After a few inspirations, I thought one pulsation of the temporal artery had not been present, but the pulse was again regular, and quite full, and I supposed I must have been deceived, when a second intermission followed. At this, I did not stop the etherization, but gave great attention to the pulse. In less than two minutes from this time the pulse was intermitting every fifth and sixth beat, the respiration being perfectly normal. The patient was still able to converse coherently and answer questions properly. I asked to have the surgeon called, at the same time removing the towel somewhat from the face, so that the etherization should remain *in statu quo*. The admission of air was followed by complete restoration of the pulse in less than a minute and a half, so that on the appearance of the surgeon no failure in its regularity was to be detected. At his request I renewed the etherization, with precisely the same effect on the pulse until it intermitted at every fourth or fifth beat, when I became somewhat anxious and removed the ether from his face. In about two minutes, the pulse was again perfectly normal, not losing a pulsation in 40 to 80 beats.

A consultation was then held by the surgeons present, and it was decided to again attempt the etherization. Precisely the same effects, in the same order, were observed by several of the Faculty of the Infirmary, and this continued until the removal of the anesthetic from the face, when the pulse again became full and regular. During this whole process, the patient had not become unconscious, nor unable to answer questions properly, and declared that he felt perfectly comfortable. It was decided to attempt the operation without ether, and it was accordingly done. At the time of greatest suffering from pain, it was noticed that there was also a slight intermission in the pulse, but this was of very moderate degree, and may have been caused by the twitching of the patient.

Five days after the operation, as the patient was sitting quietly in his chair, examination of pulse showed one intermission in twenty, twenty-seven and forty-nine beats, respectively. Pulse is sixty in the minute. Appetite is fair, strength good, patient is cheerful and happy.

I make no remarks on this case; in fact, I think it doubtful if it possesses sufficient interest to obtain a place in your columns; but to me the observation of the intermittence of the heart's action on administration of ether, and the increase and decrease of this symptom in a ratio exactly corresponding to the time the anesthetic was applied, was a thing of the greatest interest. It may not be so uncommon, but to me it is a new experience.

Boston, Dec. 10, 1873.

ALBERT N. BLODGETT.

ATWOOD'S QUININE TONIC BITTERS.

MESSRS. EDITORS,—I have received letters from several physicians of good repute, asking why my name appeared in print as having recommended a proprietary medicine, bearing the above title. Will you allow me to answer all such inquiries by one general statement.

I was not aware that my name appears in any such connection. If it does, it is without my consent. I know nothing of the article except its name. I never recommended its use.

Yours truly,
CHARLES E. BUCKINGHAM.

53 Worcester Street, Boston, Dec. 12, 1873.

Obituary.

DR. W. H. ROCKWELL.

DR. ROCKWELL, the subject of this sketch, died on the 30th ult., after an illness and decline of more than eighteen months. He was a native of Connecticut and graduated at Yale College. His pupilage in a specialty commenced at the Hartford Retreat, under Dr. Todd, in the summer of 1827, he having received the first appointment as assistant physician in that Institution. He was associated with Dr. Todd until the death of the latter in 1833, and for several months afterward had charge of the Institution. He subsequently remained connected with the Retreat, the greater portion of the time until his appointment to the Vermont Asylum, although at one time engaging in general practice, and for a few months pursuing a course of theological study. He was appointed to the Superintendency of the Institution at Brattleboro', previous to its opening, in 1836, and was officially identified with it till August, 1872, when he resigned, by reason of disability,—the result of a painful accident three months previously. Under his direction and personal oversight, from its beginning with a donation of \$10,000, and subsequent very limited State aid, the institution has attained its present capacity, and accomplished at the same time a work for humanity, creditable in comparison with the results of kindred institutions in other States, as will appear by its published reports.

Dr. Rockwell was for many years the veteran in his specialty, and the oldest superintendent of an asylum for the insane in the United States. For nearly half a century he was an indefatigable worker, and though less prominently identified with popular movements than some of his contemporaries, was no less alive to all measures of reform and in sympathy with progress. He was thoroughly practical, and compelled by circumstances to give personal attention to the details of his daily work. The institution he created (we use this word advisedly) is the monument he has left to attest his industry and to perpetuate his memory. His reports were uniformly brief and confined to the current results of the institution each year; but those who best knew him, especially those who were associated with him from time to time, realized the wealth of professional experience he possessed, and recognized his rare sagacity and practical discrimination.

Decision and force of character, great self-reliance, sound practical judgment and indefatigable activity, were his prominent characteristics; but through these the finer and nicer shades of intellect were ever visible. His points were positive, rather than negative. His religious faith was clear and decided, and by it his whole life was consistently shaped.

A quick and cultivated power of observation, and the constant and diligent study of human nature in all its varied and abnormal phases, rendered him sagacious beyond the average of men, and gave to his judgments a superior value, as was often remarked by his professional acquaintances. With active sympathy, and ready adaptation of means to ends, he at once gained the confidence of his patients, and retained it with singular facility.

In person, he was singularly tall and commanding, and by his presence as well as mental qualities, exacted respect.

It is to be hoped an extended memoir, embracing as far as possible the conclusions of his long experience, will be prepared for the benefit of the profession in the specialty.

Few individuals in any walk of life are privileged to enjoy so extended a period of active service, and few have left behind them more enduring evidence of practical usefulness.

J. D.

DR. WILLIAM F. PERRY.

IN the sudden death of Dr. Perry, Mansfield and vicinity have suffered an irreparable loss. He was born in Easton, Dec. 9th, 1809, and was the son of Dr. James Perry, a once well-known physician in that town. He studied medicine with Drs. Swan, of Easton, and Peck, of Foxboro', and attended two full courses of lectures at the Bowdoin Medical School, where he received his degree of M.D. in 1833. He subsequently attended one course of lectures at the Harvard Medical School in Cambridge, Mass., and became a member of the Massachusetts Medical Society, and continued such till his death. After practising in his native town two years, he was invited to settle in Mansfield. His first professional visit is dated May 24, 1835.

The first year yielded hardly enough to pay his board, but with his professional devotion and prompt and sympathetic attention to his patients, his skill finally commanded success, and he became a trusted physician, not in Mansfield only, but in all its vicinity, and was sought in consultation far and wide. He was a diligent student of medicine as long as he lived.

He always answered promptly the calls of the poor, and never enforced payment from those who could ill afford it; so that he lived straitened himself, while thousands of dollars due remain uncollected. Some eighteen years ago, in one of his midnight rides, he was thrown from his carriage and received an injury which he thought laid the foundation for heart disease, of which disease he suddenly died on Tuesday, Oct. 17th. He was sitting beside a sick child and before he had made the prescription he fell forward on the floor, and without a word or groan he instantly died. His funeral at his residence drew hundreds together to see once more the face which they had often so gladly welcomed as the signal of hope and relief.

Medical Miscellany.

HEADACHE.—Dr. C. C. Vanderbeck recommends the use of ergot in headache; thirty drops of the tincture every half hour, until relief is obtained. He regards it as a very useful remedy, though not a specific.

OVARIAN TUMOR IN A GIRL SIXTEEN YEARS OF AGE.—This case was noticed by Dr. R. M. Cooper. When first observed, the general health of the girl was good, and all the functions in exercise except the catamenia. Three successive tappings afforded but temporary relief, and she died without an operation at the expiration of eighteen months.

DISCHARGE OF ASCARIDES FROM THE URETHRA.—Prof. Dujardin reports the passage of three ascarides from the urethra of a man, 72 years old. The passage of these parasites occupied ten days, and occasioned the patient much suffering. The specimens are preserved in the anatomical museum at Genoa. (*La Nuova Liguria Medica*, No. 18, 1873.)

ABSCESS OF THE LIVER OPENING INTO THE ASCENDING CAVA.—This extraordinary lesion is reported by Dr. Leon Colin in *L'Union Médicale*, Aug. 5, 1873. Secondary purulent deposits had occurred in the lungs, which, causing a copious expectoration of pus, had during life led to the erroneous diagnosis that the abscess had burst into a bronchus.

RHEUMATISM AND GOUT. Dr. E. P. Townsend advocates the use of chloride of propylamin in these affections. The rheumatic cases yield, he says, in from three to twelve days, and the gout in ten. Under this treatment a recurrence of the attack, in inflammatory rheumatism, is rarely met with, and the other sequences are usually avoided, such as valvular disease, or pericarditis.—*Transactions of New Jersey Medical Society*.

ST. HELENA is recommended as a sanitarium for the Ashantee expedition. The climate of this island is represented as genial, equable and healthy, the temperature rarely exceeding eighty degrees in the shade, even in the valley, in which its one town, Jamestown, is built, while on the higher plains it usually ranges from sixty to seventy degrees. It has been used for many years as a place to which African cruisers are sent once a year to recruit the health of their crews.—*British Medical Journal*.

ACONITE POISONING.—A lady, aged 35, took by mistake twenty drops of the tincture of aconite root. She discovered her mistake shortly afterward, and, being very much frightened, swallowed a raw egg, and sent for a physician. Dr. D. McL. Forman reached her an hour and a half after the poison was taken, and found her with mind perfectly clear, complaining of an intense, burning pain over the stomach, dryness of the throat, stiffness of the tongue, and a tingling sensation over the whole body. Pulse 76 and full; respiration and pupils normal. For the next half hour, there was no change in her condition; but, at the expiration of this time, her pulse suddenly began to beat irregularly, and faintness with coldness of the extremities was experienced. During the next quarter of an hour, the pulse had become so feeble and irregular that it was scarcely perceptible; the surface of the body was cold and livid and the pupils dilated. In spite of stimulants, the pulse continued to grow weaker, until it could not be detected at the wrist, the patient continuing to complain of faintness and cold, and in this condition she remained nearly two hours before the radial pulse could again be detected. About five hours from the time of taking the poison, the physiological effects began to disappear, but the pulse continued feeble for the next two days, and dizziness was complained of whenever the head was raised from the pillow. It is worthy of remark that in this case the only changes in the pulse were irregularity and feebleness, the frequency of the pulse, when it could be felt at all, never falling below the normal standard.—*Transactions New Jersey Medical Society*.

HYPERIDROSIS.—Dr. W. G. Smith thus describes (*Irish Hosp. Gazette*) the immediate outbreak of the preternatural flow of sweat in a case of hyperidrosis. “On examining the skin with a pocket lens, some degree of hyperemia was seen to develope, and this coincided with a sensation of heat and tingling. Presently, minute glistening specks appeared at the mouths of the sweat follicles; gradually, the miniature springs welled up, and, within five minutes, the palm was literally dripping with perspiration, and large drops would fall to the ground when the hand was turned edgewise.”

CHLOROFORMING HORSES.—Prof. John A. McBride seeks to exonerate veterinary surgeons from the charge of wilful inhumanity to horses in neglecting to employ chloroform when operations are to be performed on them. He states that the chief reason why an anaesthetic is not used in horse-practice is, that while the animals are inhaling the vapor they struggle so violently that they not unfrequently break their backs. He asserts, moreover, that a blind horse is preferable to one who has been operated upon for defective vision. The usefulness of a horse is destroyed by partially restoring his sight, for, owing to his imperfect vision, he becomes addicted to shying, a habit that renders him a dangerous animal.—*British Medical Journal*.

HORNET STING.—In addition to the local irritation produced by the stings of bees, hornets and wasps, severe and even fatal results are sometimes known to ensue. In a case observed by Dr. R. M. Cooper, a lady, having accidentally approached a hornet's nest, was stung six times upon the crown of the head, through a sun-bonnet, and four times on the back of the neck. She suffered severely at the time from the stings, and was found by the physician an hour afterward, in a cold, collapsed state, with pulse thread-like and almost imperceptible. Though her condition appeared at first to be a critical one, under the influence of active stimulants she eventually rallied. Upon the following day, an intense itching was experienced over her whole body, which was found to be the seat of an erythematous eruption. This eruption disappeared at the end of thirty-six hours.—*Transactions of New Jersey Medical Society*.

MARRIED.—On the 18th inst., by the Rev. James Freeman Clark, Dr. Theodore W. Fisher to Ella Gertrude, daughter of Joshua W. Richardson, Esq., all of Boston.

DIED.—At Lynn, December 16th, of Bright's disease and pneumonia, Bowman B. Breed, M.D., aged 41 years.

MORTALITY IN MASSACHUSETTS.—*Deaths in eighteen Cities and Towns for the week ending December 13, 1873.*

Boston, 152—Charlestown, 12—Worcester, 21—Lowell, 18—Milford, 1—Chelsea, 7—Cambridge, 10—Salem, 6—Lawrence, 13—Springfield, 9—Lynn, 8—Fitchburg, 2—Newburyport, 7—Somerville, 5—Fall River, 21—Haverhill, 4—Holyoke, 5—Pittsfield, 3. Total, 304.

Prevalent Diseases.—Consumption, 55—scarlet fever, 20—pneumonia, 37—typhoid fever, 13—croup and diphtheria, 8.

GEORGE DERBY, M.D.,
Secretary of the State Board of Health.

DEATHS IN BOSTON for the week ending Saturday, Dec. 20th, 115. Males, 59; females, 56. Accident, 2—abscess, 1—apoplexy, 2—congestion of the bowels, 1—bronchitis, 7—inflammation of the brain, 4—congestion of the brain, 1—disease of the brain, 4—cancer, 2—cerebro-spinal meningitis, 3—cholera infantum, 1—consumption, 13—convulsions, 2—debility, 4—diarrhoea, 2—dropsy, 1—dropsy of the brain, 1—drowned, 1—diphtheria, 2—exhaustion, 1—scarlet fever, 6—typhoid fever, 5—disease of the heart, 10—disease of hip, 1—intussusception, 1—disease of the kidneys, 1—congestion of the lungs, 1—Inflammation of the lungs, 14—marasmus, 3—old age, 2—paralysis, 2—pleurisy, 1—premature birth, 6—peritonitis, 1—puerperal diseases, 2—rheumatism, 1—scalded, 1—suicide, 1—tumor, 1—whooping cough, 1.

Under 5 years of age, 49—between 5 and 20 years, 13—between 20 and 40 years, 22—between 40 and 60 years, 15—over 60 years, 16. Born in the United States, 82—Ireland, 28—other places, 5.

